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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/853,315	05/10/2001	Jesus Guinea	853063.486	5862
500	7590	07/07/2005	EXAMINER	
SEED INTELLECTUAL PROPERTY LAW GROUP PLLC			DEPPE, BETSY LEE	
701 FIFTH AVE			ART UNIT	
SUITE 6300			PAPER NUMBER	
SEATTLE, WA 98104-7092			2637	

DATE MAILED: 07/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/853,315

Applicant(s)

GUINEA ET AL.

Examiner

Betsy L. Deppe

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☒ Claim(s) 13-20 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 May 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5/10/01.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in European Patent Office on May 12, 2000. It is noted, however, that applicant has not filed a certified copy of the EPO application as required by 35 U.S.C. 119(b).

Drawings

2. The drawings are objected to because:

a. the Examiner suggests adding a label of "CLOCK SIGNAL" to terminal 15 in Figure 1 (see page 5, lines 11-13) for clarification; and

b. in Figure 1, in element 4, "ATTENTION" should be "ATTENUATION."

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New

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Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance. **Specification**

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

4. The abstract of the disclosure is objected to because it includes the form and legal phraseology often used in patent claims, such as "said. Correction is required. See MPEP § 608.01(b).

5. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: the detailed description does not appear to describe moving the pole and zero to approximately 30% of their initial position, as recited in claim 5.

6. The disclosure is objected to because of the following informalities: on page 3, line 10, "frequencies" should be "frequency." Furthermore, the specification does not

appear to be in proper idiomatic English. For example, see page 4, lines 10-15 and page 5, line 27 - page 6, line 3. Appropriate correction is required.

The Examiner suggests filing a substitute specification in proper idiomatic English and in compliance with 37 CFR 1.52(a) and (b). The substitute specification filed must be accompanied by a statement that it contains no new matter.

Claim Objections

7. The claims are objected to because of the following informalities:

in claim 2, line 12, "to" should be "at";

in claim 3, the two occurrences of "pole/zero" should be "poles/zeroes";

in claim 4, line 2, "frequencies" should be "frequency";

in claim 8, line 4, "filters each having" should be "filters, each transconductance filter having";

in claim 8, line 11, "of said" should be "and";

in claim 9, line 2, "filters each having" should be "filters, each transconductance filter having";

in claim 12, line 10, it appears that "structure" should be "structured".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 2, 3, 6, and 8-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

10. With regard to claims 2 and 3, it is unclear what is meant by "couple of poles/zeros." Furthermore, it is unclear whether the analogical adaptive filter has one pole and zero or whether it has multiple poles and zeros. Claim 1 recites that there is "a pole and a zero." However, in claims 2 and 3, respectively, "poles" and "zeros" are recited.

11. With regard to claim 2, positioning a couple of poles/zeros to a prefixed frequency (as recited in claim 2, lines 2-6) appears to contradict claim 1, lines 10-13. Claim 1 recites moving the pole and zero toward different frequencies whereas claim 2 recites moving them to the same frequency. Therefore, it is unclear how the pole(s) and zero(s) should be positioned.

12. In claim 2, it is also unclear how the first and second prefixed frequency is spaced "in a logarithmic way."

13. With regard to claim 3, it is unclear how the first couple and second couple of pole/zero are positioned.

14. Claim 6 recites the limitation "the moving phases" and "the phases" in lines 2 and 3, respectively. There is insufficient antecedent basis for these limitations in the claim.

15. With regard to claims 8-11, "wherein each bias current of said plural transconductance filters has a prefixed value and is made to vary at an increase of said attenuation" in claim 8, lines 9-10 renders the claim vague and indefinite. The bias

current in the limitation appears to have a "prefixed value" yet it also varies. It is unclear whether the bias current is a fixed value or a variable value.

It is also unclear what is meant by "said pole of the bias current is moved toward high frequencies" in claim 8, line 10. According to claim 8, lines 3-4, the pole is associated with a transconductance filter. However, "pole of the bias current" (emphasis added) on line 10 implies that the pole corresponds to the bias current.

16. With regard to claim 9, it is unclear what is meant by "two couples of poles and of zeroes" on lines 3 and 5. Are there two poles and two zeros in each transconductance filter? If so, this is inconsistent with claim 8, line 4 which recites that each transconductance filter has one pole and one zero.

17. In claim 9, it is also unclear from "said two couples of poles/zeros are placed having a logarithmic spacing" how the poles and zeroes are placed or positioned.

Claim Rejections - 35 USC § 103

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

19. Claims 1, 4-6, 8 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cranford, Jr. et al. (US Patent No. 5,940,441) in view of Cheng et al. (US Patent No. 6,240,131 B1).

20. With regard to claims 1 and 8, Figures 1 and 3 of Cranford, Jr. et al. discloses the claimed invention including an analogical adaptive filter (102) that includes plural transconductance filters (see Figure 4) and a retroaction circuit (104) that varies the position of the pole and zero. (See column 2, lines 23-45; column 5, lines 17 - column 6, line 47) As shown in Figures 5 and 6, Cranford, Jr. et al. also discloses varying the bias current (via V_C). However, Cranford, Jr. et al. does not teach moving the pole toward high frequencies and the zero toward low frequencies as line attenuation increases.

Since Cranford, Jr. et al. teaches that the poles and zeros of the equalizer must be properly placed to compensate for transmission channel variations (see column 6, lines 17-20), it would have been obvious to one of ordinary skill in the art at the time the invention was made to move the poles and zeros as necessary to adequately compensate for attenuation including moving the pole toward high frequencies and the zero toward low frequencies as line attenuation increases. As disclosed by Cheng et al., the pole and zero relate to the transfer function of the equalizer and the transfer function of the equalizer/filter must be set in order to adequately compensate for transmission line distortion. (See Cheng et al., column 2, lines 26-28 and 59-63)

21. With regard to claims 4 and 5, Cranford et al. in view of Cheng et al. discloses the claimed invention except for placing or moving the pole and zero as recited in the respective claims. Since Cranford, Jr. et al. teaches that the poles and zeros of the equalizer must be properly placed to compensate for transmission channel variations (see column 6, lines 17-20), it would have been obvious to one of ordinary skill in the art

at the time the invention was made to placed or move the pole and zero as recited in the respective claims in order to adequately compensate for the attenuation in the particular transmission system. For example, for a particular transmission medium, the attenuation may be such that the pole and zero must be moved approximately 30% compared to their initial position to order to adequately compensate for the attenuation caused by that transmission medium.

22. With regard to claim 6, Cranford, Jr. et al. in view of Cheng et al. discloses the claimed invention including increasing the gain of the adaptive filter. (See V_G in Figure 3 of Cranford, Jr. et al.)

23. With regard to claim 11, Cranford, Jr. et al. in view of Cheng et al. discloses the claimed invention including implementing the equalizer with CMOS technology. (See Cranford, Jr. et al., column 2, lines 7-9 and Cheng et al., column 3, lines 31-33)

24. Claims 7 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cranford, Jr. et al. in view of Cheng et al. as applied to claims 1 and 8, respectively, above, and further in view of Baker et al. (US Patent No. 5,978,417). Cranford, Jr. et al. in view of Cheng et al. discloses the claimed invention including a compensation circuit that compensates for constructive variations. (See column 4, lines 23-27) However, Cranford, Jr. et al. in view of Cheng et al. does not teach compensating for thermal variations.

Baker et al. teaches compensating for thermal variations. (See column 2, lines 13-18) It would have been obvious to one of ordinary skill in the art at the time the

invention was made to combine the teaching of Baker et al. with that of Cranford, Jr. et al. in order to more accurately compensate for signal distortions and therefore, recover the transmitted data.

25. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tovar (US Patent No. 5,699,022) in view of Cranford Jr. et al. Tovar discloses the claimed invention including an adaptive filter (18), a line attenuation detector (20) wherein the voltage drop corresponds to the line attenuation, and a variable bias generator (16). However, Tovar does not teach that the adaptive filter includes a first and second transconductance filter.

Cranford, Jr. et al. teaches implementing a filter using transconductance filters (Gm-C). (See Figures 4 and 5 and column 5, lines 48-67) It would have been obvious to one of ordinary skill in the art at the time the invention was made to use transconductance filters in the adaptive filter of Tovar in order to achieve relatively high bandwidths. (See Cranford, Jr. et al., column 5, lines 56-67)

Allowable Subject Matter

26. Claims 13-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


Conclusion

27. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Betsy L. Deppe whose telephone number is (571) 272-3054. The examiner can normally be reached on Monday, Tuesday and Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272 - 2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Effective July 15, 2005, the fax phone number will be 571-273-8300

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Betsy L. Deppe
Primary Examiner
Art Unit 2637